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NOTES AND NEWS.

EDITED BY E. J. MOULTON, Northwestern University, Evanston, Ill.

Dr. J. S. MILLER has resigned the chair of mathematics at Emory and Henry College to accept a similar position at Hampden-Sidney College.

Dr. W. W. KUSTERMAN has been appointed associate in mathematics at the University of Illinois.

Dr. E. P. LANE has resigned his position as instructor in Rice Institute to accept an appointment as assistant professor of mathematics at the University of Wisconsin.

Mr. J. R. OSBORN and Mr. W. E. ARMENTROUT have been appointed assistants at the University of Kentucky.

Dr. T. F. HOLGATE, of Northwestern University, has resumed his duties as professor of mathematics, after serving as Acting President of the University for the last three years. Dr. HOLGATE was honored with the degree of Doctor of Laws by Queen's University at the time of the installation of a new principal and chancellor on October 16.

Dr. C. H. YEATON has resigned his position as instructor in mathematics at the University of Minnesota to accept an appointment as professor of mathematics at the School of Engineering of Milwaukee.

Professor P. P. BOYD, of the University of Kentucky, has been elected president of the Kentucky academy of science.

Since his discharge from the national service, Mr. J. E. DOTTERER has been appointed professor of mathematics and physics in Manchester (Indiana) College.

At the University of Manitoba, Major N. B. MACLEAN, after active service in command of the Royal Garrison Artillery in France during the late war, for which he was awarded the Distinguished Service Order, was recalled last spring to take the directorship of the returned soldiers' tutorial course during the summer. He has now resumed his duties as head of the department of mathematics and astronomy. He has been elected a fellow of the Royal Astronomical Society of Canada of which Professor H. R. KINGSTON, in the same university, was elected president in 1919. Major N. R. WILSON, who also was in service in France, has now returned to his duties as professor of mathematics.

Dr. C. P. SOUSLEY, of the Pennsylvania State College, has been promoted from assistant professor to associate professor of mathematics.

Dr. FRANK SCHLESINGER, director of the Allegheny Observatory of the University of Pittsburgh, has been elected director of the Yale Observatory. Owing to the death of Mr. E. M. Reed, there is released for the general purposes of the Yale Observatory one-third of his estate, which will add to Observatory funds an estimated \$60,000 during the year.

Professor F. W. BEAL, of the University of Tennessee, has been appointed assistant professor of mathematics at the University of Pennsylvania.

At Cornell University, Dr. F. W. REED of the University of Illinois has been appointed instructor in mathematics. Mr. H. M. LUFKIN, Mr. H. PORITSKY, and Mr. H. A. STURGES have been appointed assistants.

Dr. R. J. T. BELL, of the University of Glasgow, has been appointed to the chair of pure and applied mathematics in the University of Otago, New Zealand. It will be recalled that Dr. Bell is the author of *An Elementary Treatise on Co-ordinate Geometry of Three Dimensions*, editor of the fourth edition of Frost's *Curve Tracing* [1919, 201-202], and an editor of recent volumes of the *Proceedings of the Edinburgh Mathematical Society*.

Professor A. B. NELSON, of Central University, Danville, Ky., died in November, 1918.

Rev. C. J. BORGMAYER, professor of mathematics and astronomy in St. Louis University since 1896, died December 6, 1919, aged 58. He was one of the charter members of the Association.

Dr. L. G. WELD, director of the Pullman (Ill.) Free School of Manual Training since 1911, died at Chicago, November 29, 1919, as the result of an infected tooth. He was in his fifty-seventh year. Dr. Weld taught mathematics for about twenty-five years at the State University of Iowa where he was professor of mathematics and astronomy and head of the department 1889-1911, dean of the graduate college 1900-1907, director of the school of applied science 1903-1905, and dean of the college of liberal arts 1907-1910. He was the author of *A Short Course in the Theory of Determinants* (1893), of the section on *Determinants* in *Higher Mathematics* edited by Merriman and Woodward (1896), afterwards reprinted as a separate book, and of several pamphlets dealing with the history of Iowa.

Dr. G. L. DEMARTRES, professor of mathematics at the University of Lille, died in July, 1919, aged seventy-one years. His *Cours de Géométrie Infinitésimale* (Paris, 1913) is familiar to many Americans. A Paris announcement of his death concludes: "Il avait subi avec courage l'occupation allemande et contribué par son exemple à maintenir le fonctionnement du haut enseignement."

Nature reports the death on October 5 of Mr. G. W. PALMER who was appointed senior mathematical master and master of the Royal Mathematical School at Christ's Hospital in September, 1911.

Mr. P. E. B. JOURDAIN, of Fleet, England, died on October 1; he was within a few days of being forty years of age. The following passage from a letter dated September 5, and addressed to the Editor-in-Chief of the MONTHLY, seems to indicate a premonition of the approaching end:

"You may possibly be interested to know that Mittag-Leffler has suggested the publication of some of my correspondence with Cantor on well-ordering and other subjects. It is rather an interesting point to me because I have just succeeded in well-ordering any aggregate, and a proof will appear shortly in *Acta Mathematica*. If you are at all interested in the subject . . . there is no one to whom I would rather communicate the more or less interesting facts about this correspondence, and as a matter of fact my health is a rather doubtful quantity so that possibly I may not be able to finish up these things myself."

The Pontécoulant Prize of the Paris Academy of Sciences has been awarded to Professor A. S. EDDINGTON of England for his astronomical researches.

Sir OLIVER LODGE, the British physicist, is to deliver three lectures in Boston January 15, 20, and February 5. His topics are to be "The Reality of the Unseen," "The Evidence for Survival," and "The Destiny of Man."

At the meeting of the Northeast Missouri Teachers Association at Kirksville, Missouri, on October 24 Professor E. J. WILCZYNSKI, of the University of Chicago, gave an address on "The Value of Mathematics" and "The Teaching of Algebra," and Superintendent P. P. CALLAWAY, of Moberly, spoke on "Mathematics as viewed by a superintendent and inspector."

At a meeting of the Association of Teachers of Mathematics in New England, at Boston University on December 6, the following papers were read by members of the Mathematical Association of America: "Modern Geometry as a stimulus to the high school teacher" by G. L. WAGAR of Mount Hermon Boys' School; "The two edged ruler" by J. L. COOLIDGE of Harvard University.

At a meeting of the National Academy of Sciences in New Haven on November 12, 1919, Mr. J. K. WHITEMORE, of Yale University, presented (by invitation) a paper entitled, "The starting of a ship under constant power."

Professor VITO VOLTERRA, of the University of Rome, delivered six lectures on the Hitchcock foundation at the University of California October 13-21. Four of these lectures dealt with "The propagation of electricity in a magnetic field," and two with "Derivative functional equations." During the week November 3-10 Professor Volterra delivered at the Rice Institute a course of three lectures on "Functions of Composition and a public lecture on "The international organization of science during and after the war." At the University of Illinois November 12-18 he lectured on "Integro-differential equations" and at the University of Chicago, November 19-21 on "Organization of science during

and after the war" and "The propagation of electricity in a magnetic field." On the same dates Professor GEORGE DE BOTHEZAT delivered lectures on, "The fundamental principles of dynamics" and "The present state of the theory of fluid resistance." Professor Volterra has returned to Italy.

At the Brussels meeting of the National Research Council several International Unions were formed. For other Unions, where the representation was insufficient Divisional Committees were formed. In Mathematics a Divisional Committee was nominated and charged with the duty of circulating a draft of Statutes so as to obtain the opinion of the principal bodies concerned. C. J. de la VALLÉE POUSSIN was elected President, and the following four gentlemen as Secretaries of this Committee: Th. De DONDER (Brussels); G. KOENIGS (Paris); M. PETROWITCH (Belgrade), V. REINA (Rome).

We have referred elsewhere (1920, 25) to the Journal of the Mathematical Association of Japan for Secondary Schools. The officers of the Association are as follows: President, Professor T. HAYASHI of the College of Science, Tôhoku Imperial University, Sendai; Vice Presidents, M. MIMORI, honorary professor in the Tokyo Higher Technical School, and M. KUNIYEDA, professor of mathematics in the Tokyo Higher Normal School; Secretary-Treasurers, I. MORI, professor of mathematics in the Tokyo Higher Normal School for Girls, and Miss K. HORIGUCHI, teacher of mathematics in the Higher Girls' School attached to the last named normal school.

Since the beginning of 1919 the editor of the *Jahrbuch über die Fortschritte der Mathematik* has been Dr. L. LICHTENSTEIN. The publishers, Vereinigung wissenschaftlicher Verleger Walter Gruyter u. Co., Berlin (formerly the firms: Göschen, Guttentag, Reimer, Trübner, and Veit), expect to issue two large volumes, the one for the years 1914–1915, the other for the years 1916–1917–1918. (See 1919, 89, 103.)

Concerning Edinburgh University *Nature* makes report as follows: "Since 1914 the department of pure mathematics has occupied a separate building, the Mathematical Institute. . . . This building contains lecture-rooms large and small, mathematical laboratory, reading-room with students' library, research-room with a library of mathematical periodicals and advanced works, and rooms for the staff. The laboratory course comprises interpolation, construction of mathematical tables, numerical solutions of algebraic and transcendental equations, numerical integration, least squares, graduation or adjustment, fitting of normal and skew frequency curves, correlation, practical Fourier analysis, spherical harmonic analysis, periodogram analysis, with drawing-board work in nomography, descriptive geometry and cartography.

"The most recent development is the institution of a diploma in actuarial mathematics. This is intended for students who are employed in the numerous life insurance offices in the city of Edinburgh, and are, therefore, only part-time

students of the University, attending, however, day, not night, classes. The course which covers two years, is conducted on the mathematical side by Professor E. T. WHITAKER, and on the actuarial side by Dr. A. E. SPRAGUE, president of the faculty of actuaries. . . .

"The Mathematical Institute is the meeting-place of the Edinburgh Mathematical Society, and houses the library of the Society.

"In the department of applied mathematics, which is under the charge of Dr. C. G. KNOTT, arrangements have been made for the inclusion of special honor courses on wave-motion in matter and æther, kinetic theory of gases, and radiation. The former courses on dynamics, hydrodynamics, and elasticity have also been extended, one of the full-year courses being specially adapted to the needs of the student of engineering. There is also a post-graduate course on quaternion vector analysis."

The technical staff of the United States Ordnance Department has been authorized to secure the services of five experts in mathematics and dynamics, at salaries ranging from \$2,000 to \$5,000, to conduct scientific research on ordnance problems, act as advisers on all mathematical and scientific problems, for the ordnance department, and keep up connections between the department and the scientific world.

Increases in Salaries of College Teachers is the title of "Higher Education Circular No. 15" issued by the Bureau of Education, Washington, in July, 1919. Many interesting facts are given.

At its recent Anniversary Meeting the Royal Society of London awarded the Sylvester Medal to Major PERCY ALEXANDER MACMAHON whose

researches on the combinatory analysis and on subjects allied to the partition of numbers are of the highest value, and display great originality and invention. He has shown equal power in the discovery and treatment of the wonderful ranges of partition theorems which are desirable from the theory of elliptic functions, and of similar theorems to be obtained by the application of analysis to purely arithmetical principles.

At the same meeting of the Royal Society a Royal Medal was awarded to Mr. JAMES HAYWOOD JEANS who

has successfully attacked some of the most difficult problems in mathematical physics and astronomy. In the kinetic theory of gases he has improved the theory of viscosity, and, using generalized co-ordinates, has given the best proof yet devised of the equipartition of energy and of Maxwell's law of distribution of molecular velocities assuming the validity of the laws of Newtonian dynamics. In dynamical astronomy he took up the difficult problem of the stability of the pear-shaped form of rotating, incompressible, gravitating fluid at a point where Darwin, Poincaré, and Liapounoff had left it, and obtained discordant results. By proceeding to a third order of approximation, for which very great mathematical skill was required, he showed that this form was unstable. He followed this up by the discussion of the similar problem when the fluid is compressible, and concluded that for a density greater than a critical value of about one-quarter that of water the behaviour is generally similar to that of an incompressible fluid. For lower densities the behaviour resembles that of a perfectly compressible fluid, and with increasing rotation matter will take a lenticular shape and later be ejected from the edge.